

changed from a reverse driving range to a forward driving range and the engine revolution state is an idling state, and if the detected throttle valve opening and vehicle speed respectively are not more than predetermined values detecting a turbine shaft revolution speed of a torque converter; and

performing a shift control operation for shifting into the first gear if the detected vehicle speed is more than the predetermined value, and if the detected turbine speed is not more than a predetermined value.

4. (amended) The method of claim 1, further comprising:
performing a shift control operation for shifting into a second gear if the detected turbine speed is more than the predetermined value.

REMARKS

Claims 1, 3 and 4 remain in this application. Claim 2 has been canceled.

Claims 1-4 stand rejected under 35 U.S.C 103(a) as being unpatentable over Lee '742 in view of Usuki et al '826. This rejection is respectfully traversed.

Claim 1 has been amended to incorporate the subject matter of claim 2.

In the R-D shift control method according to the present invention, a target gear (one of the first gear and second gear) is selected based on an engine speed, a throttle opening, a vehicle speed, and a turbine speed. In particular, if a vehicle speed is greater than a predetermined speed, and if a turbine speed is not more than a predetermined speed, the automatic transmission is shifted into the first gear. Neither Lee '742 nor Usuki et al '826

disclose this feature. Therefore, the invention recited in claim 1, as amended, is not taught by Lee or Usuki taken either singly or in combination.

For the foregoing reasons, reconsideration of the objections and rejections of record is respectfully requested, and an early notice of allowance is earnestly solicited.

Conclusion

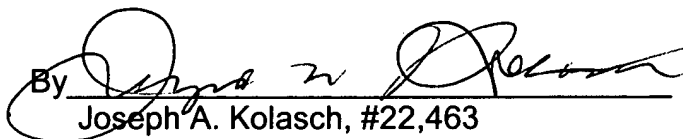
Attached hereto is a marked-up version of the changes made to the application by this Amendment.

In the event there are any matters remaining in this application, the Examiner is invited to contact Mr. Joseph A. Kolasch, Registration No. 22,463 at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachments: Version with Markings to Show Changes Made
Abstract of the Disclosure

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE ABSTRACT OF THE DISCLOSURE:

A new abstract of the disclosure is attached hereto.

IN THE SPECIFICATION:

The paragraph beginning on page 3, line 20, has been amended as follows:

A preferred embodiment of the present invention will hereinafter be described in detail with reference to the accompanying drawings. While this invention is described in connection with what is presently considered to be the most practical and preferred embodiment, it is to be understood that the invention is not limited to the disclosed embodiments, but, on the contrary, is intended to cover various modifications and equivalent arrangements included within the ~~sprit~~spirit and scope of the appended claims.

IN THE CLAIMS:

Claim 2 has been canceled.

The claims have been amended as follows:

1. (amended) A shift control method for shifting into a forward driving range while driving in a reverse driving range of an automatic transmission vehicle, comprising:

- detecting a shift lever position of the vehicle;
- detecting an engine revolution speed of the vehicle;
- detecting a throttle valve opening of the vehicle;
- detecting a vehicle speed; and

performing a shift control operation for shifting into a first gear if the shift lever is changed from a reverse driving range to a forward driving range and the engine revolution

state is an idling state, and if the detected throttle valve opening and vehicle speed respectively are not more than predetermined values detecting a turbine shaft revolution speed of a torque converter; and

performing a shift control operation for shifting into the first gear if the detected vehicle speed is more than the predetermined value, and if the detected turbine speed is not more than a predetermined value.

4. (amended) The method of claim-21, further comprising:

performing a shift control operation for shifting into a second gear if the detected turbine speed is more than the predetermined value.

ABSTRACT OF THE DISCLOSURE

~~The present invention is~~ An automotive transmission shift controller to reduce a shift shock occurring while shifting from a reverse driving range to a forward driving range, and to improve durability at the same time.

~~The present invention comprises detecting~~ controller detects a shift lever position, an engine revolution speed, a throttle valve opening, and a speed of the vehicle, and performing a shift control operation for shifting into a first gear if the shift lever is changed from a reverse driving range to a forward driving range and the engine revolution state is an idling state, and if the detected throttle valve opening and the vehicle speed respectively are not more than predetermined values.